What is claimed is:

1. A method of delivering fluid to a patient's coronary arteries, comprising:

providing an aortic catheter having a shaft, a lumen and a flow control member expandable from the shaft, the flow control member having a porous section configured to deliver fluid to the coronary ostia and a non-porous section configured to substantially block fluid from passing therethrough;

inserting the aortic catheter into a blood vessel and navigating the flow control member into the patient's ascending aorta such that the porous section is proximate to the patient's coronary ostia;

expanding the flow control member with a fluid; and

delivering the fluid into the coronary ostia through the porous section of the flow control member.

2. The method of claim 1, wherein:

the step of expanding the flow control member is carried out by infusing a heart arresting fluid into the flow control member.

3. The method of claim 1, wherein:

the step of expanding the flow control member is carried out by infusing a cardioplegic agent into the flow control member.

4. The method of claim 1, wherein:

the step of delivering the fluid into the coronary ostia is performed by infusing the fluid through at least one pressure valve in the porous section of the flow control member.

5. The method of claim 1, wherein:

the step of delivering the fluid into the coronary ostia is performed by infusing the fluid through a porous window in the flow control member.

6. The method of claim 1, wherein:

the step of delivering the fluid into the coronary ostia is performed by infusing the fluid through a plurality of porous windows in the flow control member with each of the porous windows positioned proximate to one of the coronary ostia.

7. The method of claim 1, wherein:

the step of delivering the fluid into the coronary ostia is performed by infusing the fluid through a porous strip encircling the flow control member.

8. The method of claim 1, wherein:

the step of delivering the fluid into the coronary ostia is performed by infusing the fluid through at least one bistable nipple in the porous section of the flow control member.

9. The method of claim 1, further comprising:

contacting the patient's aortic valve with a distal surface of the flow control member.

10. The method of claim 1, further comprising:

contacting the patient's aortic valve with a distal surface of the flow control member having at least one lobe configured to conform to at least one cusp of the aortic valve.

11. The method of claim 1, further comprising:

contacting the patient's aortic valve with a distal surface of the flow control member having three lobes configured to conform to three cusps of the aortic valve.

12. The method of claim 1, wherein the flow control member is in the form of an inflatable balloon.

13. The method of claim 1, wherein the flow control member is in the form of an inflatable balloon configured to conform to a shape of the patient's aortic root.

14. The method of claim 1, wherein the flow control member is in the form of an inflatable balloon configured to conform to a shape of three cusps of the aortic valve.

15. The method of claim 1, wherein the flow control member comprises three lobed portions longitudinally aligned with respect to the shaft of the aortic catheter.

16. The method of claim 1, wherein the flow control member comprises two adjacent balloons mounted on the shaft of the aortic catheter, and wherein the porous section is located on at least one of the balloons.

17. The method of claim 1, wherein the flow control member comprises three adjacent balloons mounted on the shaft of the aortic catheter, including a non-porous distal balloon, a porous middle balloon and a non-porous proximal balloon.

18. The method of claim 17, wherein the non-porous distal balloon is configured to conform to a shape of the patient's aortic valve

19. The method of claim 1, wherein:

the step of delivering the fluid into the coronary ostia is performed by infusing the fluid through a space between the flow control member and an inner balloon positioned within the flow control member.

20. The method of claim 19, further comprising:

inflating the inner balloon to occlude fluid flow through the porous section of the flow control member.

21. The method of claim 1, further comprising:

infusing fluid through a perfusion lumen extending through the shaft of the aortic catheter to at least one perfusion port on the shaft proximal to the flow control member.

22. The method of claim 1, further comprising:

expanding a downstream anchoring member mounted on the shaft of the aortic catheter and spaced apart from the flow control member.

23. The method of claim 22, further comprising:

infusing fluid through a perfusion lumen extending through the shaft of the aortic catheter to at least one perfusion port on the shaft between the flow control member and the downstream anchoring member.

24. The method of claim 23, further comprising:

infusing fluid through a second perfusion lumen extending through the shaft of the aortic catheter to at least one downstream perfusion port on the shaft proximal to the downstream anchoring member.

25. The method of claim 22, wherein the downstream anchoring member is in the form of an inflatable balloon.

26. The method of claim 22, wherein the downstream anchoring member is in the form of a selectively expandable flow control valve.

27. The method of claim 1, wherein:

the step of delivering the fluid into the coronary ostia is performed by infusing approximately 500 ml to 1,000 ml of a cardioplegic agent into the coronary ostia at an initial flow rate of approximately 250 ml to 350 ml/minute to induce cardioplegic arrest, then reducing the flow rate to approximately 25 to 250 ml/minute for a duration of a medical procedure to prevent the patient's heart from resuming sinus rhythm.

28. The method of claim 1, wherein:

the step of navigating the flow control member into the patient's ascending aorta is performed by partially expanding the flow control member and advancing the aortic catheter until the partially expanded flow control member contacts the patient's aortic valve.